Leveraging artificial intelligence (AI) and automating processes make the transaction monitoring and reconciliation process timely and accurate, assisting professionals to achieve multiple goals such as cost optimization, risk management and compliance, and stakeholder trust.

Transforming Conventional Reconciliation and Transaction Monitoring: The Pivotal Role of AI-Powered Platforms

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Global CxOs' Top Priorities in 2023 and Beyond

In the wake of global macroeconomic headwinds, it has become imperative for global CxOs (Chief Financial Officers [CFOs], Chief Risk Officers, and internal audit leaders) to have a laser sharp focus on identifying and executing on opportunities of cost optimization and managing risk in 2023 and beyond. They must accomplish gains in the effectiveness of processing, enhance the productivity of team members, bolster compliance controls, ensure transparency, and drive a culture of trust for internal and external stakeholders (particularly suppliers, regulators, and the auditor ecosystem). For example, a CFO needs to have a risk prioritized end-to-end view of the business with a robust identification and redressal mechanism for financial process data and its consistency.

The Importance of Transaction Monitoring and Reconciliation

Transaction monitoring and reconciliation are undoubtedly the most critical and recurring set of activities across multiple business and finance processes. Regardless of size and industry, organizations need available, accurate, and consolidated financial and business data for decision-making and compliance. This is possible if the underlying data is consistent and well-analyzed for the identification of anomalous transactions and is mitigated with actions that are prioritized based on the risk.

AT A GLANCE

BUSINESS OBJECTIVE

Ensure data accuracy across business processes and transactions and flag out inconsistencies and errors for improved compliance.

CHALLENGE

Traditional and legacy transaction monitoring and reconciliation approaches and tools often lead to gaps and issues. Addressing value leakage by identifying unusual activities is a time-consuming process and can lead to errors and inaccurate data, if done traditionally.

SOLUTION

An AI-powered, efficient, scaled out, and quick continuous transaction monitoring and reconciliation system that provides complete data monitoring, automated reconciliation and decisioning, combined with detection of data anomalies across processes. An IDC survey suggests that over 30% Asia/Pacific including Japan (APJ) organizations and about 29% of Indian organizations intend to leverage AI for anomaly detection in Finance and Accounting in the next 12 months.

For example, reconciled books are essential to reveal the:

- » Accurate position of financial statements (including intercompany positions)
- » Cash position
- » Suppliers' liabilities
- » Statutory reporting to regulatory authorities

Additionally, they act as significant input feeds for detecting anomalies; an efficient and continuous financial reconciliation process is crucial to detecting patterns, identifying risks, and reducing the risk profile of organizations. A well-executed reconciliation process helps to not only uncover blind spots in the ecosystem, but also provide new opportunities for businesses.

Organizations Have Yet to Reap Full Benefits of Continuous Transaction Monitoring and Reconciliation Solutions

Globally, enterprises have embraced digitization. They are, however, at different stages of maturity in their transformation journey, with many unable to fully extract optimum value from continuous transaction monitoring and financial reconciliation activities. Listed below are the challenges they face:

- » **Slow, manual processes.** Despite investments in robotic process automation (RPA), adoption and maturity levels vary in enterprises. The bulk of these activities across major finance processes still happen manually, with traditional tools such as Microsoft Excel. This is counterproductive for medium- to large-scale finance and reconciliation processes.

- » **Emerging data landscape in organizations.** With rapid digitization across business functions, organizations face a data deluge (rise in volumes), data variety (multiplicity of data formats that require standardization), and data velocity (emergence and need for real-time data). With slow, manual processes and tools, it is practically impossible for professionals to sift their way through this data landscape and optimize financial reconciliation. Additionally, data integration from a complex mesh of legacy and modern applications is a nightmare for such activities.

- » **Outdated applications.** Organizations leverage MS Excel, legacy ERP, and financial accounting tools with limited capabilities to manage reconciliation processes at scale and at higher frequencies. These lead to omissions, errors, and inaccuracies in accounts books.

- » **Lack of intelligent (AI-enabled) automation.** Although RPA has been adopted for these activities, its effectiveness and impact is limited. It does not provide requisite intelligence to look beyond the task and connect the dots. This is a key hindrance in deriving maximum value from continuous transaction monitoring and financial reconciliation.

- » **Low levels of maturity for decision-making and redressal.** Timely decision-making is lacking as professionals don't have the necessary context to act on the anomalies/patterns detected.

- » **Lack of processes and policies.** Organizations also face issues pertaining to a lack of processes and policies covering financial reconciliation (including intercompany reconciliation).
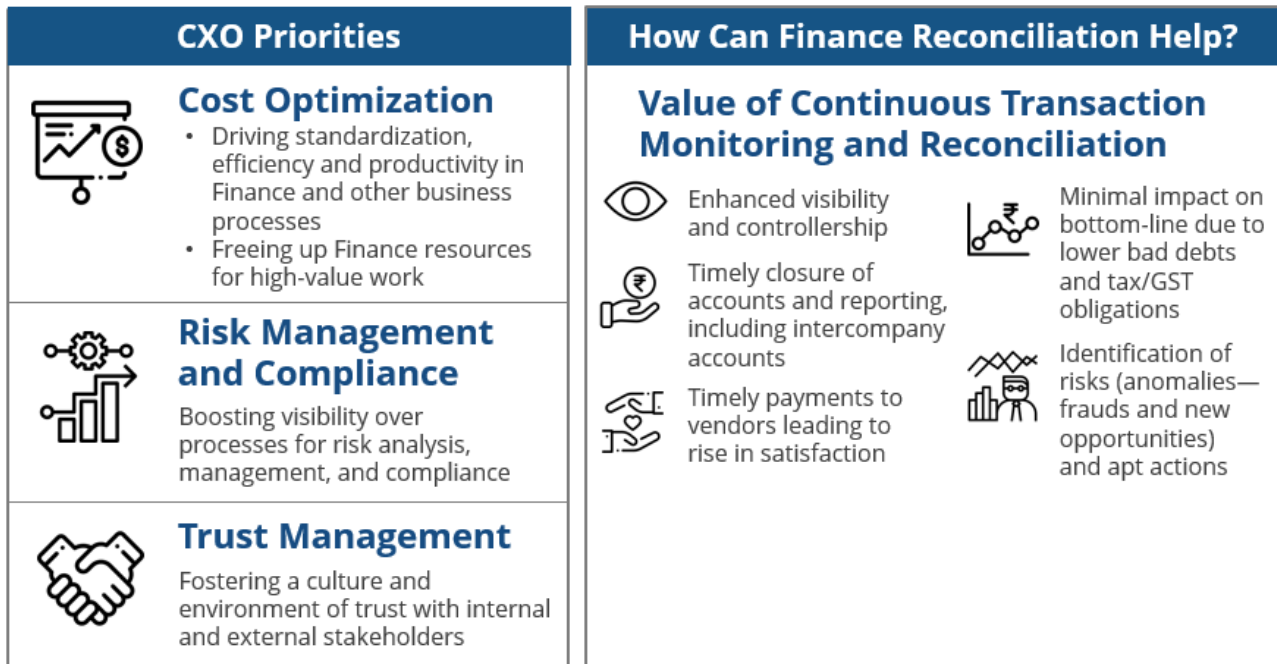
Intelligent and Automated Transaction Monitoring and Financial Reconciliation is the Way Forward

Introducing the PwC Anomaly Detection Platform

AI-powered and automated transaction monitoring and reconciliation can help provide quality and accurate views of the health of multiple business processes. This holds significant advantages over traditional approaches and tools, such as the speed, scale, and accuracy of reconciliation; gains in productivity and efficiency; cost savings; and augmented risk management/compliance. Organizations globally, in Asia/Pacific, and in India have already taken initiatives to transform the finance function and are leveraging AI-powered solutions. An IDC survey indicates that over 30% of APJ and about 29% of Indian organizations intend to leverage AI for anomaly detection in finance and accounting business processes.[1] The same survey said that about 70% of APJ organizations believe that AI is instrumental in financial close.

PwC India's Anomaly Detection Platform is an AI-driven digital solution that can be leveraged for multiple operations such as reconciliation, anomaly detection, and transaction monitoring. It provides finance, risk, and compliance professionals with enterprise-grade capabilities for observability of business processes and AI-driven machine learning (ML) outlier analysis for effective financial reconciliation, identification of unknown patterns, and risk management.

Figure 1. *The Value of Continuous Transaction Monitoring and Finance Reconciliation in Empowering CXO Priorities*

CXO Priorities

Cost Optimization
- Driving standardization, efficiency and productivity in Finance and other business processes
- Freeing up Finance resources for high-value work

Risk Management and Compliance
Boosting visibility over processes for risk analysis, management, and compliance

Trust Management
Fostering a culture and environment of trust with internal and external stakeholders

How Can Finance Reconciliation Help?

Value of Continuous Transaction Monitoring and Reconciliation

- Enhanced visibility and controllership
- Timely closure of accounts and reporting, including intercompany accounts
- Timely payments to vendors leading to rise in satisfaction
- Minimal impact on bottom-line due to lower bad debts and tax/GST obligations
- Identification of risks (anomalies—frauds and new opportunities) and apt actions

Source: IDC 2023

The platform's core capabilities (see Figure 2) include:

» **Full data coverage:** The platform ensures that enterprises can work with the volumes and varieties of data (including both structured and unstructured) emanating from a diverse range of sources through embedded API-based data ingestion. This negates the dependence on sample data and leads to augmented monitoring, in turn providing better anomaly detection results.

» **Discovery of known and unknown risk:** Enterprises can leverage the platform's pre-built heuristic rules libraries as well as unsupervised ML models to discover known and unknown risks, respectively. The power of using unsupervised, explainable ML models (without the need for any data labeling) in detecting risks is extremely useful for business, risk, and compliance teams.

Key Differentiators of PwC's Platform

- Strong industry vertical domain knowledge and expertise combined with in-depth appreciation of horizontal large-scale and mission-critical business processes across geographies
- Dedicated and robust local and global regulatory and compliance expertise
- Ease of use and explainable platform allow even non-business users to derive actionable insights
- An effective solution that leverages unsupervised ML models (in tandem with rules) for outlier analysis
- Comprehensive data integration and management capabilities
- Flexible deployment and consumption models (on-premises, private cloud, public cloud)

» **Tailored, smarter insights:** The easy-to-use platform is accessible to business users, enabling them to configure any additional rules as per business requirements and derive smarter insights for all levels, including analysts and CxOs.

» **Comprehensive visibility of processes and anomalies:** The workflow manager is customizable and provides seamless end-to-end monitoring of processes, real-time alerts, audit logs, and feedback loops. This ensures that enterprises focus on noise reduction and anomaly resolution. This results in operational efficiency and effective outlier analysis/resolution with low frequency follow-up. A strong audit log feature, in combination with personalized dashboarding capabilities, allows teams to generate and deliver customized and automated reports for enhanced internal and external compliance.
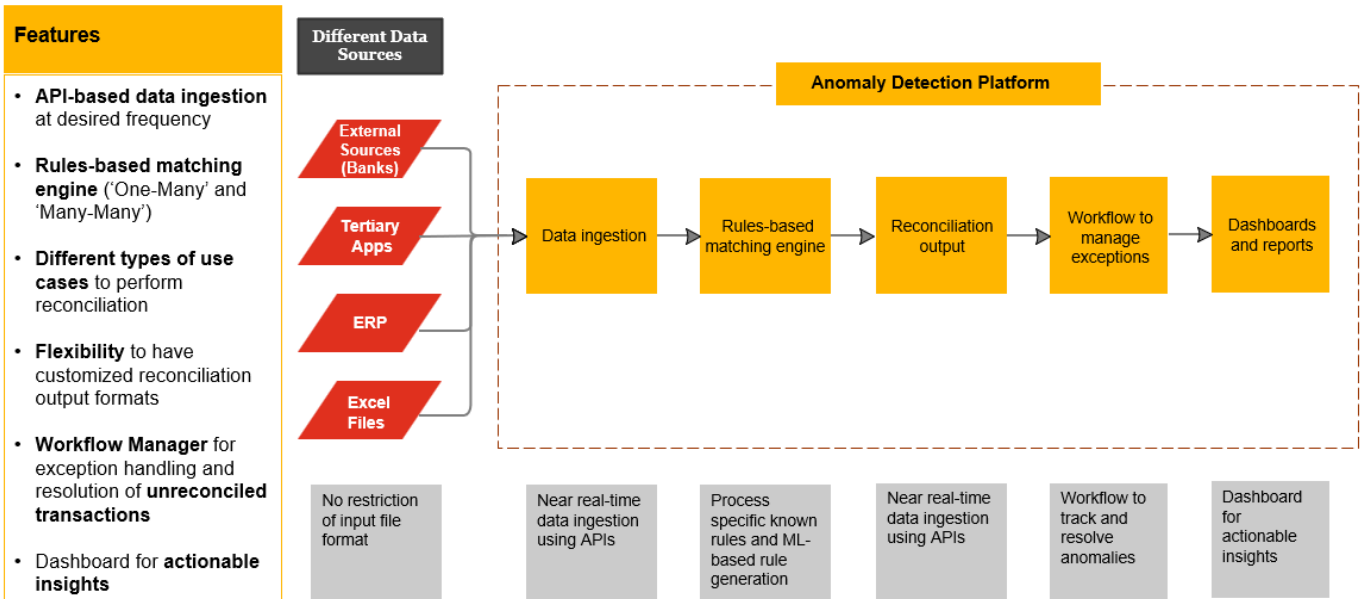
30% of APJ and 29% of Indian organizations intend to leverage AI for anomaly detection in financial and accounting business processes.[1]

Figure 2. *PwC Anomaly Detection Platform: Capabilities*

Features	Different Data Sources	Anomaly Detection Platform
• **API-based data ingestion** at desired frequency • **Rules-based matching engine** ('One-Many' and 'Many-Many') • **Different types of use cases** to perform reconciliation • **Flexibility** to have customized reconciliation output formats • **Workflow Manager** for exception handling and resolution of **unreconciled transactions** • Dashboard for **actionable insights**	External Sources (Banks) Tertiary Apps ERP Excel Files	Data ingestion → Rules-based matching engine → Reconciliation output → Workflow to manage exceptions → Dashboards and reports

No restriction of input file format	Near real-time data ingestion using APIs	Process specific known rules and ML-based rule generation	Near real-time data ingestion using APIs	Workflow to track and resolve anomalies	Dashboard for actionable insights

Source: PwC

PwC's platform can be leveraged globally for a wide variety of use cases for financial reconciliation and other areas suited for anomaly detection. Figure 3 provides an overview of the use cases addressed by the PwC platform.

Figure 3. *PwC Anomaly Detection Platform: Transaction-Monitoring-Led Use Cases*
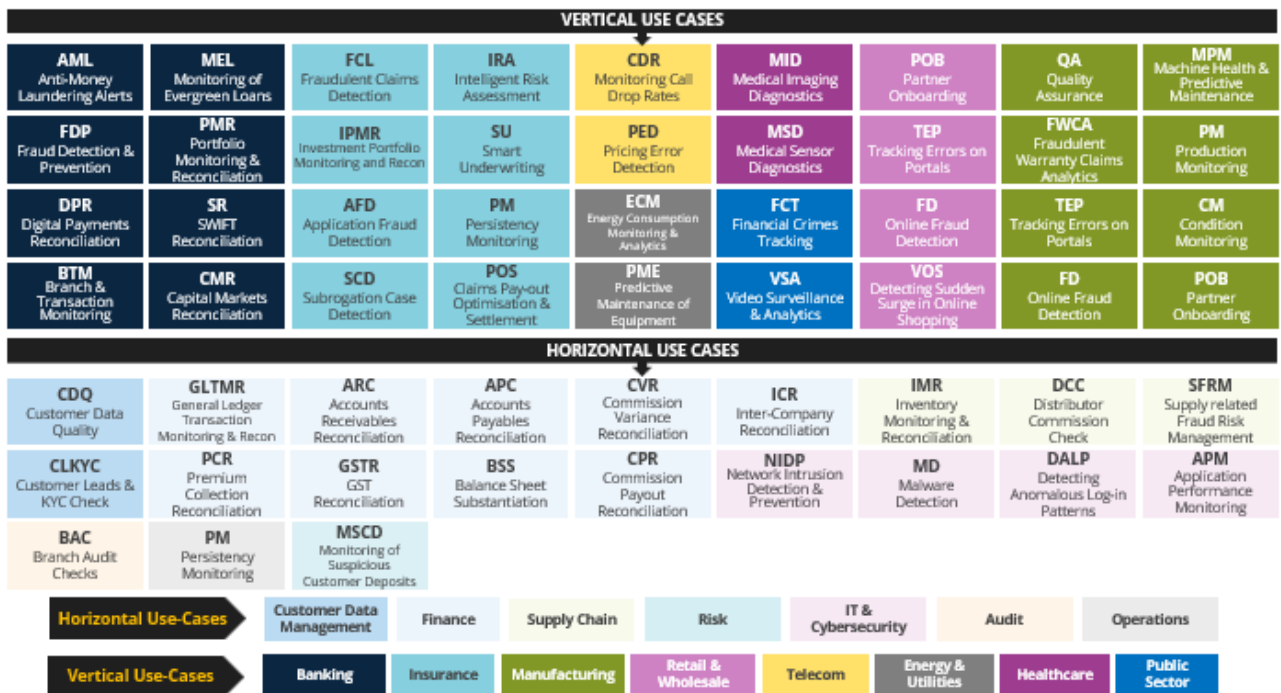
Sources: IDC and PwC, 2023

Customer Case Studies, using the Anomaly Detection Platform—Transaction Monitoring

Company A Leading Indian private sector bank	**Company B** Leading private bank in India	**Company C** One of India's largest FMCG companies
Business requirement: Reconcile disparities between the expected and actual registrar and transfer agents (RTA) commission payouts via automated tools and to evaluate the existing commission calculation framework. This activity enables the bank to compare RTA commission against the system-calculated commission. **Solution:** Provided complete data coverage, and included automated controls, dashboard visualization, and end-to-end automation. It recalculated the commission based on existing reports, identified commission mismatches, and analyzed material differences in the documents. **Impact:** INR25 crores worth of savings for FY 2018–19; and recalculated RTA commission and identified leakage in revenue.	**Business requirement:** Manage multiple siloed reconciliation systems and general ledger (GL) applications. Anomaly handling processes were cumbersome and manual, creating opportunities for turnaround time (TAT) breaches. Update anomaly patterns as current patterns had poor reconciliation visibility due to a lacking audit trail and overreliance on pre-defined static rules. **Solution:** Automated and streamlined monitoring and tracking of all GL anomaly-handling processes and key operational metrics using a configurable business rule library, action-oriented alerts, and proactive notifications. The platform reduces TAT-breach-risk of GLs through aging and priority tagging and recognizes mismatching patterns through ML-pattern analysis. Finally, it recommends proactive rules to be embedded. **Proposed impact:** Reconciliation visibility through delivery of timely reports and dashboards, thereby reducing overall compliance cost.	**Business requirement:** The company wanted to resolve critical issues such as invoice fraud risks, duplicate payments, and manual anomaly handling processes which led to higher costs and poor audit trails. The company also wanted to recognize unknown patterns since only known invoice risks/patterns were considered for risks. **Solution:** The platform provided an integrated rules engine that automated and streamlined the vendor invoice monitoring processes. The customizable workflow manager, ML pattern analyzer, and other similar features provided action-oriented alerts, proactive notifications, and audit trails. The solution further allowed the FMCG brand to drive future insights via configurable dashboards and capture unknown risks. **Impact:** The advanced analytics augmented features in the anomaly detection platform are expected to futureproof the vendor payment process for the FMCG company and enable them to launch multiple AI/ML-based use cases.

Source: PwC

Transaction Monitoring and Reconciliation Challenges

» With ever increasing data generated from multiple sources, companies must appreciate and invest in data availability, access, management, and integration solutions—this is a key deal breaker for large-scale data science projects.

» Explainability is another pressing issue when adopting AI/ML solutions—areas like AI governance and responsible AI are crucial in building trust when putting AI models in action for use cases like anomaly detection, reconciliation, and transaction monitoring.

» Additionally, government regulations and policies around data and its usage are constantly evolving, posing external challenges to technology adoption and adaptation.

Concluding Remarks: Considerations for Tech Buyers

Leveraging AI in complex business applications is no longer an afterthought for enterprises. Anomaly detection via transaction monitoring and reconciliation processes across verticals has traditionally been burdened with several manual processes and workloads to deal with legacy technologies. Enterprise leaders should look to leverage AI, ML, and analytics to enhance the customer and employee experience by improving automated detection of inconsistent patterns, reduce fraudulent activities, and monitor online and offline transactions.

Technology buyers should consider the following:

Assess and improve data and AI maturity

Invest in partnerships with strong platform and service capabilities

Standardization of processes supplemented with finance automation

Enterprises must up the ante primarily with regard to data readiness. Data management, despite significant investment in the recent past, remains a pressing issue for organizations in the country. This directly impacts AI adoption and maturity, and uptake of several use cases such as intercompany reconciliation, bank reconciliation, and others that can prove to be of tremendous business value.

Enterprises globally currently need a platform-based approach to consume a closely knit set of effective technology modules to address manual transaction monitoring and reconciliation issues, as well as a services partner that can coach business, risk, and compliance teams with its strong domain and regulatory expertise. In addition, services and platform partners must have strong evidence of delivering services at speed and scale.

Standardization is instrumental to reduce overall risks, reporting errors, and enhance training. Tying transaction monitoring & reconciliations with financial automation streamlines data integration, highlights discrepancies, provides automatic reconciliation of low-risk accounts, and delivers real-time insights to CFOs.

Rectify issues that complicate the process and slow down your team

Move beyond traditional processes to unsupervised ML techniques

Automate processes and improve efficiency

Multiple complex issues that arise from different aspects of business such as bank statements, international transactions, transfer company challenges, and many more can add layers to the overall process. Automation enables enterprises to standardize and simplify these issues via periodic monitoring and centralized management.

Unsupervised ML models are effective in uncovering unknown patterns and can prove to be of superior value as compared with traditional, manual methods.

Embed performance metrics to track progress at every step of the AI-enabled journey.

About the Analysts

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MESSAGE FROM THE SPONSOR

Organizations are becoming part of a data-driven world in which business teams struggle to identify unknown risks across transactions. Changing anomaly patterns and evolving business rules mean that they might not be able to keep pace with managing timely compliance. To overcome this, organizations need an innovative solution that builds trust between them and their data. That's where PwC's machine learning-powered anomaly detection platform comes in.

The Anomaly Detection Platform is an AI-driven digital platform which helps clients in detecting and preventing anomalies, reconciliation and continuous transaction monitoring including uncovering unknown patterns and risks using unsupervised ML methods. To know more, please click on this link: https://store.pwc.in/en/products/anomaly-detection-platform

IDC Custom Solutions

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